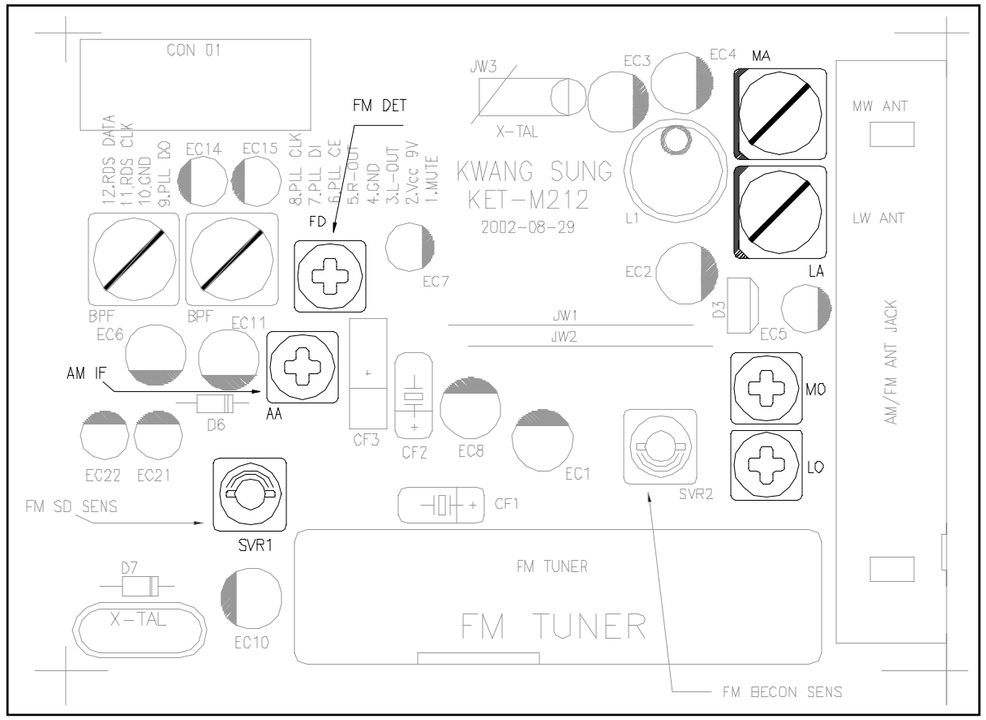
# 1. Alignment and Adjustments

## 1-1. Tuner




* Adjustment Location of Tuner PCB

| ITEAM | AM(MW) OSC Adjustment | AM(MW) RF Adjustment | LW OSC Adjustment | LW RF Adjustment |
|---|---|---|---|---|
| Received FREQ. | 522~1611 KHz | 594 KHz | 146~290 KHz | 150 KHz |
| Adjustment point | MO | MA | LO | LA |
| Output | 1~7.0±0.5V | Maximum Output(Fig1-4) | 2~7.0±0.5V | Maximum Output(Fig1-4) |

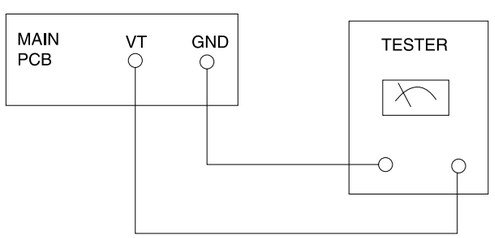



Fig 1-4 OSC Voltage

| FM THD Adjustment | |
|---|---|
| SSG FREQ. | 98 MHz |
| Adjustment point (FM DET) | FM DETECTOR COIL |
| Output | 60 dB |
| Minumum Distortion (0.4% below) (Figure 1-1) | |

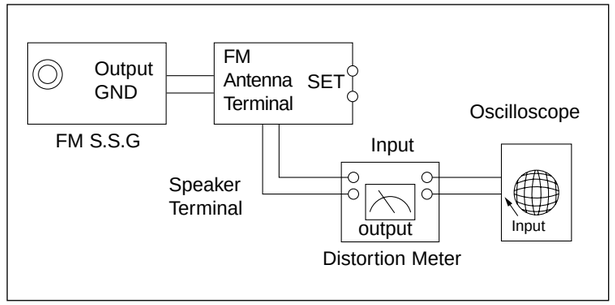



Figure1-1 IF CENTER and THD Adjustment

| FM Search Level Adjustment | |
|---|---|
| SSG FREQ. | 98 MHz |
| Adjustment point (SVR1) | BEACON SENSITIVITY SEMI-VR(10KΩ) |
| Output | 28 dB(±2dB) |
| Adjust SVR1 (Figure 1-2) | |

*Adjust FM S.S.G level to 28dB

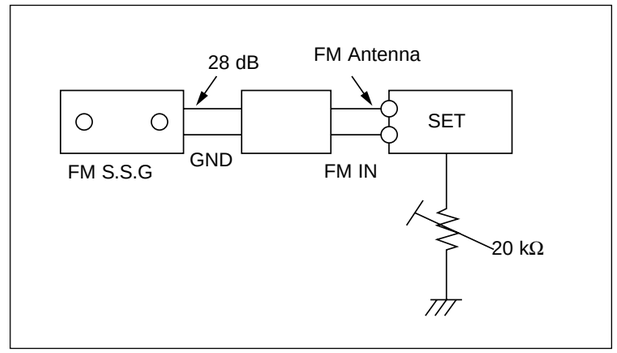



Figure1-2 FM Auto Search Level Adjustment

| AM(MW) I.F Adjustment | |
|---|---|
| SSG FREQ. | 450 kHz |
| Frequency | 522 kHz |
| Adjustment point | AM IF |
| Maximum output (Figure 1-3) | |

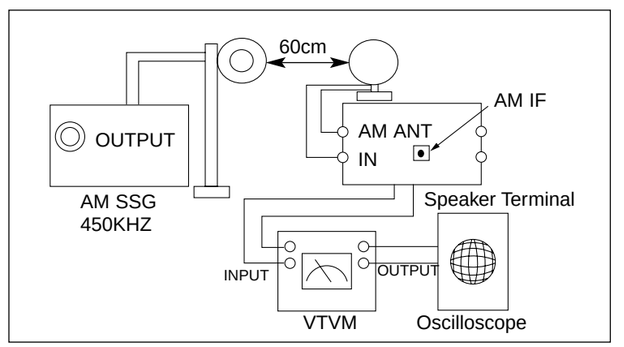



Figure1-3 AM I.F Adjustment

## 1-1-2 AM(MW),LW,SW1,SW2 Adjustment

| | Circuit to be Adjusted | Measuring Instrument & Arrangement | Step | S.S.G Frequency | Radio dial Setting | Adjusting Point | Adjust for |
|---|---|---|---|---|---|---|---|
| AM (MW) | OSC | Connect AM signal generator to loop antenna,VTVM AND oscilloscope (Fig 1-3) | 1 | 522KHz | 522KHz | MW OSC | Adjust for 1.0V±0.1V at the low. (IR117) |
| | | | 2 | 1611KHz | 1611KHz | MW OSC | Check for 7.0V±1.0V at the high. (IR117) |
| | RF | " | 1 | 594KHz | 594KHz | MW ANT | Maximum out |
| | INTER FREQ | " | 1 | 455KHz | 522KHz | TL2 | Maximum out |
| LW | OSC | Fig 1-3 | 1 | | 146KHz | LW OSC | Adjust for 2.0V±0.1V at the low. |
| | | | 2 | | 290KHz | LW OSC | Check for 7.0V±1.0V at the high. |
| | RF | | 1 | 150KHz | 150KHz | LW ANT | Maximum out |
| SW1 | OSC | Fig 1-3 | 1 | | 2.3MHz | SW1 OSC | Adjust for 1.0V±0.1V at the low. |
| | | | 2 | | 7.3MHz | - | Check for 8.5V±1.0V at the high. |
| | RF | | 1 | 3.5MHz | 3.5MHz | SW1 ANT | Maximum out |
| SW2 | OSC | Fig 1-3 | 1 | | 9.5MHz | SW2 OSC | Adjust for 1.5V±0.1V at the low. |
| | | | 2 | | 26.1MHz | - | Check for 8.0V±1.0V at the high. |
| | RF | | 1 | 10MHz | 10MHz | SW2 ANT | Maximum out |

# 2. Cassette Deck

## 2-1. To Adjust Tape Speed

Notes

1) Measuring tape: i) MTT-111 (or equivalent)
(Tapes recorded with 3kHz)
ii) MTT-5512 (or equivalent)
2) Connect the SPK OUT of the MAIN PCB to the frequency counter as in figure 1-5.

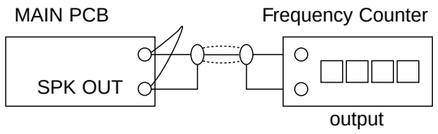



Figure 1-5

| Step | Item | Pre-Setup Condition | Pre-Setup | To Adjust | Standard | Remark |
|---|---|---|---|---|---|---|
| 1 | NOR SPEED Control | SPK OUT (connected to the frequency counter) | 1) Deck 1:MTT-111<br>2) Press PLAY SW button<br>3) Deck 2:Same as above | Turn VSR1 to left and right (FRONT PCB) | 3KHz | ±1% range |

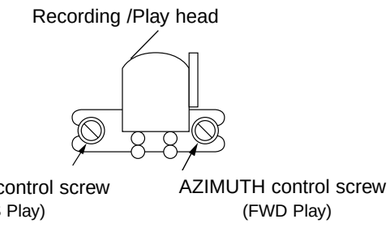



Figure 1-6

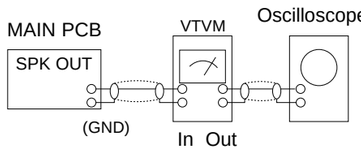



Figure 1-7

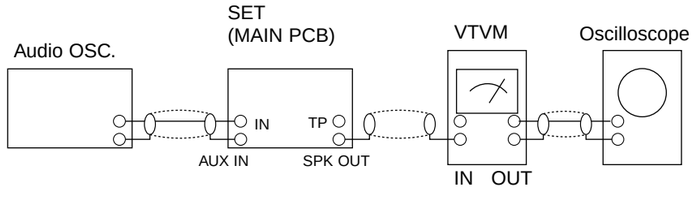



Figure 1-8

## 2-2. To Adjust PlayBack Level/REC

Notes

1) Before the actual adjustment, clean the play/recording head.
2) Measuring tape :
i) MTT-114N(or equivalent 10kHz AZIMUTH control)
ii) MTT-5512
3) The cassette deck is connections as shown in figure 1-7.

### 1. Adjust Deck 1 Play Level

| Step | Item | Pre-Setup Condition | Pre-Setup | To Adjust | Standard | Remark |
|---|---|---|---|---|---|---|
| 1 | AZIMUTH | SPK OUT (VTVM is connected to the scope) | After putting MTT-114N into Deck 1<br>- Press FWD PLAY button. | - Turn the control screw to as shown in Figure 1-6. | Max output and same phase (both channels) | After adjustment secure it with REGION LOCK. |

### 2. Adjust Deck 2 Play Level/ REC BIAS

| Step | Item | Pre-Setup Condition | Pre-Setup | To Adjust | Standard | Remark |
|---|---|---|---|---|---|---|
| 1 | AZIMUTH | SPK OUT (VTVM is connected to the scope) | After putting MTT-114N into Deck 2<br>- Press FWD PLAY button. | - Turn the control screw to as shown in Figure 1-6. | MAX OUTPUT and same phase (both channels) | After adjustment secure it with REGION LOCK. |
| 2 | Recording Bias Voltage | Fig 1-8 | After putting MTT-5512 into Deck 2<br>1) Press REC PLAY button.<br>2) TAPE PCB JCW3 ,connected to VTVM | - Turn JSR2L,JSR2R to the right and left | CHECK TO 7mV(±0.5mV) | |